

Authors

Brian T. Bennett

Research Division, Yorktown Heights, New York

Dr. Bennett is a member of the computer sciences department at the Thomas J. Watson Research Center and is currently working on storage management algorithms. He joined IBM in 1969 and has done research in sorting and routing algorithms. His education includes a B.Sc. and a Ph.D. in mathematics from Adelaide University, South Australia, in 1968 and 1974, respectively. Dr. Bennett is a member of the Operations Research Society of America and the Association for Computing Machinery.

Brian S. Berry

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Dr. Berry is a research staff member in the physical sciences department and manager of the defects-in-solids group. His principal research interests lie in the application of mechanical relaxation techniques to the study of materials. Dr. Berry joined IBM in 1958, having previously held positions at the Fulmer Research Institute and Yale University. He received a B.Sc. degree with first-class honors from the University of Manchester, England, in 1949, and stayed on to teach and to obtain an M.Sc. in 1951 and a Ph.D. in 1954. He received the Cort Research Medal from the University in the following year. He is a member of the American Physical Society and the American Institute of Mining and Metallurgical Engineers, and is co-author (with A. S. Nowick) of the book *Anelastic Relaxation in Crystalline Solids*.

Roland J. Braun

System Products Division, Endicott, New York

Mr. Braun is an advisory engineer in systems packaging development in the Endicott laboratory, where he has also worked on transducer development. Mr. Braun joined IBM at Endicott in 1964 as a circuit design engineer. He has served as a member of an advanced development group for electromechanical devices and as a manager in the electromagnetic compatibility laboratory. Mr. Braun received a B.S.E.E. degree from the engineering school in Konstanz, Germany, in 1952, and an M.S.E.A. degree from Syracuse University in 1970. Before joining IBM, Mr. Braun spent nine years with Brown, Boveri and Company in Baden, Switzerland, in the development and design of protective relays. Mr. Braun received an IBM Outstanding Contribution Award in 1967. He is the holder of seven patents, three of which were issued in Switzerland.

John J. Hilliard

Federal Systems Division, Gaithersburg, Maryland

Mr. Hilliard is a development engineer and currently manager of the shore-based systems department, working in the area of acoustic signal processing for ocean surveillance. He joined IBM in 1963 with the Federal Systems Division in Bethesda, Maryland. From 1972 through 1974 Mr. Hilliard was a member of the postal systems engineering group, where he was responsible for system design and analysis for applications of the advanced optical character reader. He was engaged in system design tasks for communication systems in Gaithersburg between 1968 and 1971 and prior to that was involved in research and development efforts in sonar signal processing. His education includes B.S. and M.S. degrees in electrical engineering from the Catholic University, Washington, DC.

Se June Hong

System Products Division, Poughkeepsie, New York

Dr. Hong was a Visiting Associate Professor of electrical engineering at the University of Illinois for the academic year 1974 to 1975. He joined IBM in 1969 in the reliability technology group working in the areas of system reliability, error-correcting codes, and test pattern generation. He later engaged in research and development in efficient use of LSI, array logic, and large function minimization on the staff of IBM Fellow H. Fleisher. He received a B.Sc. in electronics engineering from Seoul National University in 1965, and an M.S. and a Ph.D. in electrical engineering from the University of Illinois in 1967 and 1969. Dr. Hong is a member and Distinguished Visitor of the Institute of Electrical and Electronics Engineers, and a member of the Mathematics Association of America, Sigma Xi, and Korean Engineers and Scientists in America.

Vincent J. Kruskal

Research Division, Yorktown Heights, New York

Mr. Kruskal is a member of the automatic programming group at the Thomas J. Watson Research Center. His current interests include new tools for the production of application packages and general purpose operating systems with their associated hardware architecture. Prior to joining IBM, Mr. Kruskal was manager of systems development at the University of Chicago Computation Center, where he was responsible for CHAOS, an ASP-like operating system for a direct-data-connected computing system. On joining IBM in 1970, he became the reliability-availability-serviceability coordinator for an experimental multiprocessing operating system. In this capacity he invented several algorithms for assuring storage integrity.

Willard L. Miranker

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Dr. Miranker joined IBM in 1958 and is a staff member of the mathematical sciences department at the Thomas J. Watson Research Center. His specialty is numerical analysis, including optimization of numerical algorithms and the numerical solution of differential equations. His B.A., 1952, M.S., 1953, and Ph.D., 1956, were obtained in mathematics at New York University. From 1956 to 1958 he was a research staff member of the mathematics department, Bell Telephone Laboratories. At IBM

his significant work assignments have included research staff member, Zurich laboratory, 1961; technical assistant to the Director of Research, 1965; and assistant director of the mathematical sciences department, 1972 and 1973. Dr. Miranker was visiting associate professor at California Institute of Technology, 1963-1964; visiting professor, Hebrew University of Jerusalem, 1968-1969; visiting lecturer, Yale University, 1973-1974; and visiting professor, University of Paris-Sud, 1974-1975. He also held adjunct faculty positions at the City University of New York, 1966, and at New York University, 1970-1973. He is a Fellow of the American Association for the Advancement of Science and a member of the American Mathematical Society and the Society for Industrial and Applied Mathematics.

Annie L. Morreeuw

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Dr. Morreeuw worked in numerical analysis at the mathematical sciences department at the Thomas J. Watson Research Center, as a guest of IBM, in 1972 and 1973. She received the degree of D.E.A. (Diploma of Thorough Studies) in 1971 from the Ecole Normale Supérieure at Fontenay. Subsequently, she received degrees in Aggregation of Mathematics and Doctorat of Specialty in Applied Mathematics, both in 1972. Since 1973 she has been Research Attaché at the French National Scientific Research Center.

Daniel L. Ostapko

System Products Division, Poughkeepsie, New York

Dr. Ostapko is a member of the staff of IBM Fellow H. Fleisher and is investigating structures and design aids which provide more efficient use of large scale integration. Currently, his technical interests include array logic, design automation, and fault tolerant computing. He joined IBM in East Fishkill in 1968 and has since held several assignments in the development of computer hardware. He received a B.S. and a B.S.E.E. from Trinity College in 1963 and 1964, and an M.S. and a Ph.D. from Northwestern University in 1966 and 1968 in electrical engineering. During the 1973-1974 academic year, he was a Visiting Fellow in the Electrical Engineering Department at Johns Hopkins University. Dr. Ostapko is a member of Sigma Xi and the Institute of Electrical and Electronics Engineers.

Arvind M. Patel

General Products Division, San Jose, California

Dr. Patel is a member of the recording technology department where he is currently involved with development of advanced tape products. He received his B.E. from Sardar Vallabh-bhai Vidyapeeth, India, in 1959, his M.S. from the University of Illinois in 1961, and his Ph.D. from the University of Colorado in 1969, all in electrical engineering. He held a University of Illinois Fellowship in 1961 and an IBM Resident Study Fellowship during 1968 and 1969. He joined IBM at the Poughkeepsie laboratory in 1962. Since then he has worked in circuits, systems, and channel design aspects of magnetic recording at the Poughkeepsie, Boulder, and San Jose development laboratories. His main theoretical interest has been in exploring the area of information theory and coding for computer applications. His work on data encoding and error-correcting codes has won two IBM Outstanding Invention Awards in 1972 and 1973, and an Outstanding Technical Paper Award from AFIPS in 1970. Dr. Patel is a member of the Institute for Electrical and Electronics Engineers.

Walter C. Pritchett

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Mr. Pritchett is a senior associate engineer in the physical sciences department, working on defects in thin films and ion-implanted materials. He joined IBM in 1963 and was initially involved in ultrahigh vacuum techniques and stresses in thin films. He attended the RCA Institute and received a B.S. degree in electrical engineering from the University of Bridgeport in 1969.

Walter S. Rosenbaum

Federal Systems Division, Gaithersburg, Maryland

Dr. Rosenbaum is an advisory engineer in the Federal Systems Center advanced technology department. He is currently manager and principal investigator of an optical character word processing project. Prior to this he was the principal investigator of an earth resources photo reduction and mathematical modeling study performed by IBM for the National Aeronautics and Space Administration. Dr. Rosenbaum was also responsible for advanced signal processing technology for the ballistic missile defense directorate and for application analysis for large multiprocessor systems. Before joining IBM Dr. Rosenbaum was with the NASA Goddard Space Flight Center. He received a B.S. in mathematics from Yeshiva University in 1966, an M.S. in applied mathematics from New York University in 1968, and a Ph.D. in mechanical engineering (theoretical thermodynamics) from the Catholic University in 1972.

James C. Suits

Research Division, San Jose, California

Dr. Suits is currently studying the crystallographic and magnetic properties of novel amorphous and crystalline materials. He joined IBM at the Thomas J. Watson Research Center, Yorktown Heights, in 1960 and has worked in San Jose since 1967. He received a B.S. in physics from Yale University in 1954, attended Cornell University from 1954 to 1957, and received a Ph.D. in applied physics from Harvard University in 1960. Dr. Suits is a Fellow of the American Physical Society and a member of the Institute of Electrical and Electronics Engineers.

Roy A. Wood

System Development Division, Kingston, New York

Mr. Wood is a senior associate engineer in the communications and circuit technology department in Kingston, where his present work assignments include the design of LSI circuitry. Prior to joining IBM in 1967, Mr. Wood was with the electro-optics device group at Bell Telephone Laboratories in Murray Hill, New Jersey. He received a B.S. in electrical engineering from Newark College of Engineering in 1967 and is presently engaged in graduate studies at Syracuse University.